28. (Newly Added) The mechanism for establishing compatibility of a printer component with a printer of claim 2, wherein said printer component is an ink/printhead cartridge.

29. (Newly Added) The mechanism for establishing compatibility of a printer component with a printer of claim 2, wherein said printer component is a printhead.

30. (Newly Added) The mechanism for establishing compatibility of a printer component with a printer of claim 2, wherein said printer is an inkjet printer.

REMARKS

A first Office Action, dated April 25, 2002, rejects pending claims 1, 3-8, 10, 11, and 14-20. Claims 1, 2, 7-12, 14 and 16 have been rewritten herein, and new claims 21-30 have been added. Reconsideration is respectfully requested in light of the amendments and the following remarks.

Formalities

Applicants have corrected the examiner noted discrepancies with the drawings, specification and claims. Namely, missing spaces between element names and element numbers in the specification have been corrected, claims 1 and 10 have been amended to clarify the origin of the tab as shown in an embodiment disclosed in the specification, and claims 1, 11, and 15 have been amended to address the examiner's 35 U.S.C. § 112 (2nd Paragraph) objections. Moreover, figures 12 and 13 have been corrected to include element number 114 (handle), and better identify element numbers 120 (moment arm) and 118 (moment arm).

Allowable Subject Matter

The examiner has objected to claims 2, 9, 12 and 13 as being dependent upon rejected base claims, but indicated that they would be allowable if rewritten in independent format and including all of the limitations of their corresponding base claims and any intervening claims. The amendments herein comply with the examiner's grounds for allowability.

Regarding allowable claim 9, the examiner's comments provided in the Office Action suggest that the allowable subject matter of this claim is the addition of surface indicia to indicate the required characteristic of the printer component. This limitation is

actually found in dependant claim 8. Accordingly, applicants have amended dependant claim 8, upon which claim 9 depends, to place claim 8 into independent format with all the limitations of its base claim and any intervening claim.

In addition, claims 2 and 12 have been amended to place them into independent format and to include all of the limitations of their respective base claims and related intervening claims. Accordingly, these claims should now be in condition for allowance. Moreover, claims 9 and 13, and new claims 26-30, which all depend on one of these now allowable claims, should also now be in condition for allowance.

Claim Rejections under 35 USC § 102(b)

Applicants respectfully traverse the examiner's rejection of claims 1, 3-8, 10, 11, and 14-20 as being anticipated by Thoman et al. (U.S. Pat. No. 5,519,422). Thoman et al. discloses a fundamentally different structure.

As explained more fully in the specification of the present application, among other benefits, the separate key elements of the present invention allow a common carriage and printer component mounting portion to be used in a variety of different printers without requiring each printer to have its own custom designed printer component mounting portion.

In contrast and as shown in the below figure, Thoman et al. discloses an ink carriage (82) for operably receiving a plurality of color pens (112, 114, 116, and 118) therein. Each pen includes a unique patter of tabs (132, 134, 136, 138, 140, 142, 144, 146) extending therefrom with appropriately aligned "corresponding slots in a unitary rear section 148 of the carriage" (82). (Thoman et al., col. 5, lines 25-26, emphasis added). As best shown in FIG. 6 of Thoman (below), these slots are integrally-molded into the carriage (82). Accordingly, unlike the presently claimed invention, the carriage in Thoman must be specific to a particular printer configuration.

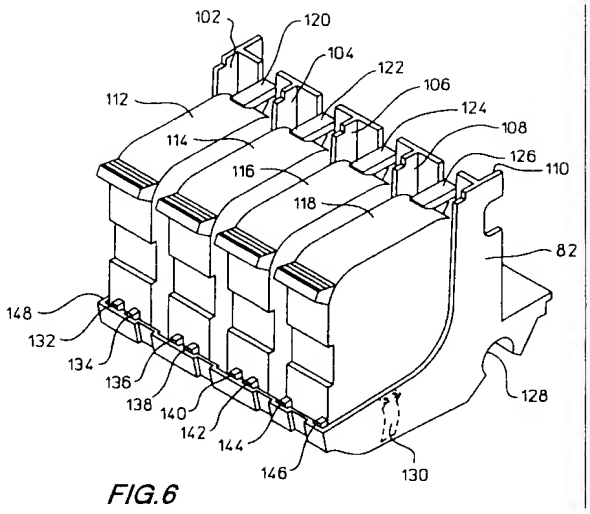

FIG.6

FIG. 6 of Thoman et al. (U.S. Pat. No. 5,519,422).

The claims of the present application include structures that are neither taught nor suggested by Thoman et al. or any other references of record.

Claims 1, 11, 16 and 21:

Turning to the claims of the present application, claim 1 (as amended) specifically requires "a discrete key element attachably secured to the component mounting portion, adjacent to said printer component . . .." (emphasis added). Similarly, claim 11 (as amended) includes "a discrete key element, operably secured to and separable from said mounting portion," and new claim 21 includes "a discrete key element attachably secured to the printer component mounting portion" (emphasis added). Also, method claim 16 includes the step of "installing a discrete key element on the printer component mount . . .."

All of these claims include limitations that the key element be "discrete" from the printer component mount upon which the key element is attached. As explained more fully in the specification, among other benefits, this discrete key element allows a common printer component mount to be used in a variety of different printers without requiring each mount to be uniquely molded for a particular printer component configuration.

As previously noted, Thoman et al. discloses no such structures. Rather, the key elements in Thoman are integrally molded directly into the carriage (82). Accordingly, unlike the present invention, the carriage (82) in Thoman must be

remolded before a different printer component configuration can be operably received in it.

Since Thoman et al. neither teaches nor suggest these essential elements of independent claims 1, 11, 16, and 21, they cannot be rendered obvious or anticipated by this reference or any other references of record, and they should be allowed. Moreover, since dependent claims 3-7, 10, 14, 15, 17-20 and new dependant claims 22-25 depend on these now allowable claims, they too should be in condition for allowance.

In view of the foregoing, applicants submit that all of the currently pending claims are in condition for allowance, and respectfully requests that the case be passed to issuance. If the Examiner has any questions, he is invited to contact applicants' attorney at the below-listed telephone number.

Respectfully submitted,

August 12, 2002

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Attachment A to Amendment
(Redlined amendments to specification)

In the next two paragraphs beginning on page 8, line 24:

The pivoting connection between the ink reservoir-mounting portion 50 and the printhead mounting-portion 52 permits easy access to the printheads 32a-d for maintenance, service, or replacement. In particular, the carriage 30 can be positioned along the guide rod 40 to permit easy access to the carriage 30 through an access door 94 (FIG. 1) in the chassis 26 of the printer 20.

With the carriage 30 so positioned, the [service]servicer lifts the ink reservoir-mounting portion 50 causing it to pivot about pivot point 56 and move to the open position 60, thereby exposing the printhead mounting-portion 52 and providing access to the printheads 32a-d.

In the paragraph beginning on page 9, line 27:

As best shown in FIG. 10, in order to prevent the ink reservoir-mounting portion 50 from inadvertently falling out of its open position 60 during maintenance, a resistive detent 108 may be positioned in one of the ink reservoir-mounting portion 50 or the printhead mounting-portion 52. The resistive detent 108 operably engages a tab 110 extending from the other of the ink reservoir-mounting portion 50 or the printhead mounting-portion 52 when the ink reservoir-mounting portion 50 is in its open position 60, thereby holding the ink reservoir-mounting portion 50 in place.

In the paragraph beginning on page 9, line 29:

Preferably, a latching mechanism 112 is provided to secure the ink reservoir-mounting portion 50 in its engaged position 58 (FIG. 2). Moreover, because of the relatively large forces associated with deflecting the rods 98 of the [ink flow valves]spring-loaded plungers out of their neutral positions, it is desirable that the latching mechanism 112 operate as a lever, thereby minimizing the amount of force required by a user to secure the lever. As best shown in FIG. 12, the latching mechanism 112 preferably includes a handle 114 pivotally secured to the ink reservoir-mounting portion 50 at a pivot 116 such that the handle 114 defines a lever arm 118 on one side of the pivot 116 and a moment arm 120 on the other side of the pivot 116. A left and right joining arm 122a, 122b, respectively, are pivotally secured to the moment

arm120 at a point spaced apart for the pivot 116. The opposite ends 124 of the joining arms 122a, 122b include openings 126 for receiving hooks 128 extending from the printhead mounting-portion 52.

In the next two paragraphs beginning on page 11, line 28:

The rearward-mounting end 142 of the ink reservoirs 24a, 24b preferably includes left and right rearward mounting end guides 158a, 158b sized to slidably engage respective mating slots 160a, 160b received on the respective side walls of the ink reservoir chambers 80a, 80b. A lever 162, operably secured toward the lower portion 164 of the rearward-mounting end 142 of the ink reservoirs 24a, 24b is biased to an extended position 166 (shown in FIG. 2). The lever_162 includes a notch 168 extending therefrom for operably engaging a lip 170 (FIG. 5) on the forward flange 72 of the ink reservoir-mounting portion 50, thereby detachably securing the ink reservoirs 24a, 24b to the ink reservoir mounting-portion 50.

Each ink reservoir 24a, 24b is installed into its respective ink reservoir chamber 80a, 80b by the installer first placing the toe end 140 into the respective ink reservoir chamber 80a, 80b such that the left and right toe-end guides 146a, 146b slidably engage guide rails 150. The user slides the toe end 140 of the ink reservoir 24a, 24b toward the toe-end guide receptacles_152. When the toe-end guides 146a, 146b are seated in their respective receptacle 152, the user then presses down on the upper surface 172 of the ink reservoir 24a, 24b toward the rearward-mounting end 142, causing the left and right rearward mounting end guides 158a, 158b to slidably engage their respective mating slots 160a, 160b, and thereby properly positing the ink reservoirs 24a, 24b into their respective ink reservoir chambers 80a, 80b.

In the paragraph beginning on page 12, line 27:

However, if an installer attempts to install an ink reservoir 24a, 24b in another manner besides using the toe-heel installation process, the cover 180 blocks the toe end 140 of the ink reservoir 24a, 24b from entering the respective ink reservoir chambers 80a, 80b, thereby alerting the installer of the improper installation. For example, if an installer would first attempt to secure the notch 168 extending from the lever 162 to the lip 170 on the forward flange 72, and then attempt to lower the toe end 140 of the ink reservoir 24a, 24b into the respective ink reservoir chamber 80a, 80b, the mounting portion cover 180 blocks the toe end 140 of the ink reservoir 24a, 24b

from entering the respective ink chamber 80a, 80b, thereby alerting the installer of the improper installation method. Similarly, if the installer attempts insert an ink reservoir 24a, 24b into the ink reservoir chamber 80a, 80b simply by maintaining the bottom surface 190 of the ink reservoir parallel to the lower surface 192 of the respective ink reservoir chamber 80a, 80b, the mounting portion cover 180 blocks the toe end 140 of the ink reservoir 24a, 24b from entering into the respective ink reservoir chambers 80a, 80b.

In the paragraph beginning on page 14, line 26:

Also, should an installer improperly latch the lever 162 as described, the spring 210 will urge the rearward-mounting end 142 of the ink reservoir 24a upward, thereby visually alerting the user of the improper installation. Preferably, the printer chassis 26 includes defined stops (not shown) that operably engage the rearward-mounting end 142 when the ink reservoir 24a is in its uninstalled position 212 shown in FIG. 5. The location of the carriage 30 when the rearward-mounting end 142 contacts these stops can then be used to signal the user of the improper ink reservoir 24a installation via a computer interface, warning light, or the like.

In the paragraph beginning on page 15, line 6:

In general, each detachable printer component, such as the ink reservoirs 24a, 24b shown in FIG. 2, includes a unique pattern of identifying tabs 220a-f extending therefrom. For example, the left ink reservoir 24a includes tabs 220a-c, two of which are to the left of the left ink reservoir's lever 162, and the right ink reservoir 24b includes tabs 220d-f, two of which are to the right of the right ink reservoir's lever 162. This pattern of tabs 220a-f can be used to indicate the type, color, and/or quality of ink contained that particular printer. For example, the tab pattern for the left ink reservoir 24a can indicate that it contains black ink, and the tab pattern displayed on the right ink reservoir 24b can indicate that the right ink reservoir is a multi-chamber reservoir containing blue, magenta, and yellow colored ink.

Attachment B to Amendment
(Redlined amendments to claims)

1. (Amended) A mechanism for establishing [printer component]compatibility of a printer component with a printer comprising[,]:

a printer component mounting portion operably secured to the printer;

a [separate]discrete key element attachably secured to the component mounting portion, adjacent to said printer component;

at least one tab extending from [one of]the printer component[and said separate key element], said at least one tab positioned and oriented in a defined and unique tab pattern thereby indicating a required characteristic of the printer component; and

[the other of the printer component and]said [separate]discrete key element having at least one mating slot positioned and aligned to receive said at least one tab, thereby allowing the printer component to be operably secured to the mounting portion and preventing similarly shaped printer components that have a different tab pattern from being operably secured to the printer component mounting portion.

2. (Amended) [The mechanism for establishing printer component compatibility with a printer of claim 1, wherein said separate key element is] A mechanism for establishing [printer component]compatibility of a printer component with a printer comprising:

a printer component mounting portion operably secured to the printer;

a separate key element detachably secured to said component mounting portion[.], adjacent to said printer component;

at least one tab extending from the printer component, said at least one tab positioned and oriented in a defined and unique tab pattern thereby indicating a required characteristic of the printer component; and

said separate key element having at least one mating slot positioned and aligned to receive said at least one tab, thereby allowing the printer component to be operably secured to the mounting portion and preventing similarly shaped printer components that have a different tab pattern from being operably secured to the printer component mounting portion.

7. (Amended) The mechanism for establishing printer component compatibility with a printer of claim 1, wherein said [separable]discrete key element includes a unique slot for operably engaging a protrusion extending from said printer component mounting portion, thereby allowing said [separable]discrete key to be secured to said printer component mounting portion, and preventing key elements that are missing said unique slot from being secured to said printer component mounting portion.

8. (Amended) [The mechanism for establishing printer component compatibility with a printer of claim 1, wherein,] A mechanism for establishing compatibility of a printer component with a printer comprising:

a printer component mounting portion operably secured to the printer;

a separate key element secured to the component mounting portion, adjacent to said printer component, said separable key element further [includes]including a display surface for visually indicating [said]a required characteristic of the printer component[.];

at least one tab extending from the printer component, said at least one tab positioned and oriented in a defined and unique tab pattern thereby indicating said required characteristic of the printer component; and

said discrete key element having at least one mating slot positioned and aligned to receive said at least one tab, thereby allowing the printer component to be operably secured to the mounting portion and preventing similarly shaped printer components that have a different tab pattern from being operably secured to the printer component mounting portion.

9. (Amended) The mechanism for establishing printer component compatibility with a printer of claim [1]8, wherein said display surface has a unique shape, and further including a label displaying surface indicia thereon to indicate said required characteristic of the printer component and having said unique shape for being operably secured to said display surface.

10. (Amended) The mechanism for establishing printer component compatibility with a printer of claim 1, further including:

a second printer component;

a second printer component mounting portion operably secured to the printer;

a second [separate]discrete key element secured to the second component

mounting portion, adjacent to said second printer component;

a second at least one tab extending from one of the second printer component and said second [separate]discrete key element, said second at least one tab positioned and oriented in a defined and unique second tab pattern, different from the tab pattern of said at least one tab, thereby indicating a required characteristic of the second printer component; and

the other of the second printer component and said second [separate]discrete key element having at least one second mating slot positioned and aligned to receive said second at least one tab, thereby allowing the second printer component to be operably secured to the mounting portion and preventing similarly shaped printer components that have a different tab pattern from said second tab pattern from being operably secured to the second printer component mounting portion.

11. (Amended) An inkjet printer comprising[;]:

a chassis;

a motor;

a carriage operably secured to the chassis and driven by the motor for reciprocal movement relative to the chassis;

an ink reservoir secured to the printer at a mounting portion, said ink reservoir having a unique pattern of tabs extending therefrom thereby indicating a characteristic of the ink received within the reservoir;

a printhead operably secured to the carriage, in fluid communication with said ink reservoir, and in electrical communication with a controller;

a discrete key element, operably secured to and separable from said mounting portion, said key element having a pattern of slots sized to receive the pattern of tabs extending from the ink reservoir, thereby allowing said ink reservoir to be operably secured to the mounting portion and preventing ink reservoirs having a different pattern of tabs from being operably secured to the first mounting portion.

12. (Amended) [The inkjet printer of claim 11, wherein said] An inkjet printer comprising:

a chassis;

a motor;

a carriage operably secured to the chassis and driven by the motor for reciprocal

movement relative to the chassis;

an ink reservoir secured to the printer at a mounting portion, said ink reservoir having a unique pattern of tabs extending therefrom thereby indicating a characteristic of the ink received within the reservoir;

a printhead operably secured to the carriage, in fluid communication with said ink reservoir, and in electrical communication with a controller;

a discrete key element [is]detachably secured to said mounting portion[.], said key element having a pattern of slots sized to receive the pattern of tabs extending from the ink reservoir, thereby allowing said ink reservoir to be operably secured to the mounting portion and preventing ink reservoirs having a different pattern of tabs from being operably secured to the first mounting portion.

14. (Amended) The inkjet printer of claim 11, wherein said separable key element further includes a display surface displaying surface indicia thereon for visually indicating said characteristic of the ink received within the reservoir.

16. (Amended) A method for establishing a detachable printer component compatibility with a printer component mount in a printer comprising the steps of:

providing a unique key on the detachable printer component that indicates a required characteristic of the printer component;

installing a [separate]discrete key element on the printer component mount for operably receiving the key from the printer component when the printer component is properly installed in the printer mount;

mounting the printer component onto the printer component mount such that the key is operably received through the key element, thereby indicating proper printer component compatibility with the printer component mount.

21. (Newly added) A mechanism for establishing compatibility of a printer component having a defined key code thereon with a printer comprising:

a printer component mounting portion operably secured to the printer;

a discrete key element attachably secured to the printer component mounting portion, adjacent to said printer component, said key element operably engaging the key code of the printer component to allow the printer component with the defined key code to be operably secured to the printer component mounting portion.

22. (Newly added) The mechanism for establishing compatibility of a printer component having a defined key code thereon with a printer of claim 21, wherein said discrete key element prevents similarly shaped printer components that have a different key code thereon from being operably secured to the printer component mounting portion.

23. (Newly added) The mechanism for establishing compatibility of a printer component having a defined key code thereon with a printer of claim 21, wherein said discrete key element is detachably secured to said printer mounting portion.

24. (Newly added) The mechanism for establishing compatibility of a printer component having a defined key code thereon with a printer of claim 23, wherein said defined key code is related to a desirable characteristic of said printer component and said key element includes surface indicia thereon to visually indicate the desirable characteristic of said printer component.

25. (Newly added) The mechanism for establishing compatibility of a printer component having a defined key code thereon with a printer of claim 21, wherein said separable key element includes a mounting portion key element of operably engaging a mating key on said mounting portion.

26. (Newly Added) The mechanism for establishing compatibility of a printer component with a printer of claim 2, wherein said key element includes surface indicia thereon to visually indicate the required characteristic of said printer component.

27. (Newly Added) The mechanism for establishing compatibility of a printer component with a printer of claim 2, wherein said printer component is an ink reservoir.

28. (Newly Added) The mechanism for establishing compatibility of a printer component with a printer of claim 2, wherein said printer component is an ink/printhead cartridge.

29. (Newly Added) The mechanism for establishing compatibility of a printer component with a printer of claim 2, wherein said printer component is a printhead.

30. (Newly Added) The mechanism for establishing compatibility of a printer component with a printer of claim 2, wherein said printer is an inkjet printer.

Attachment C to Amendment
(Redlined and formal replacement drawing sheets 6 and 7)

Redlined Correction of Sheet No. 6.

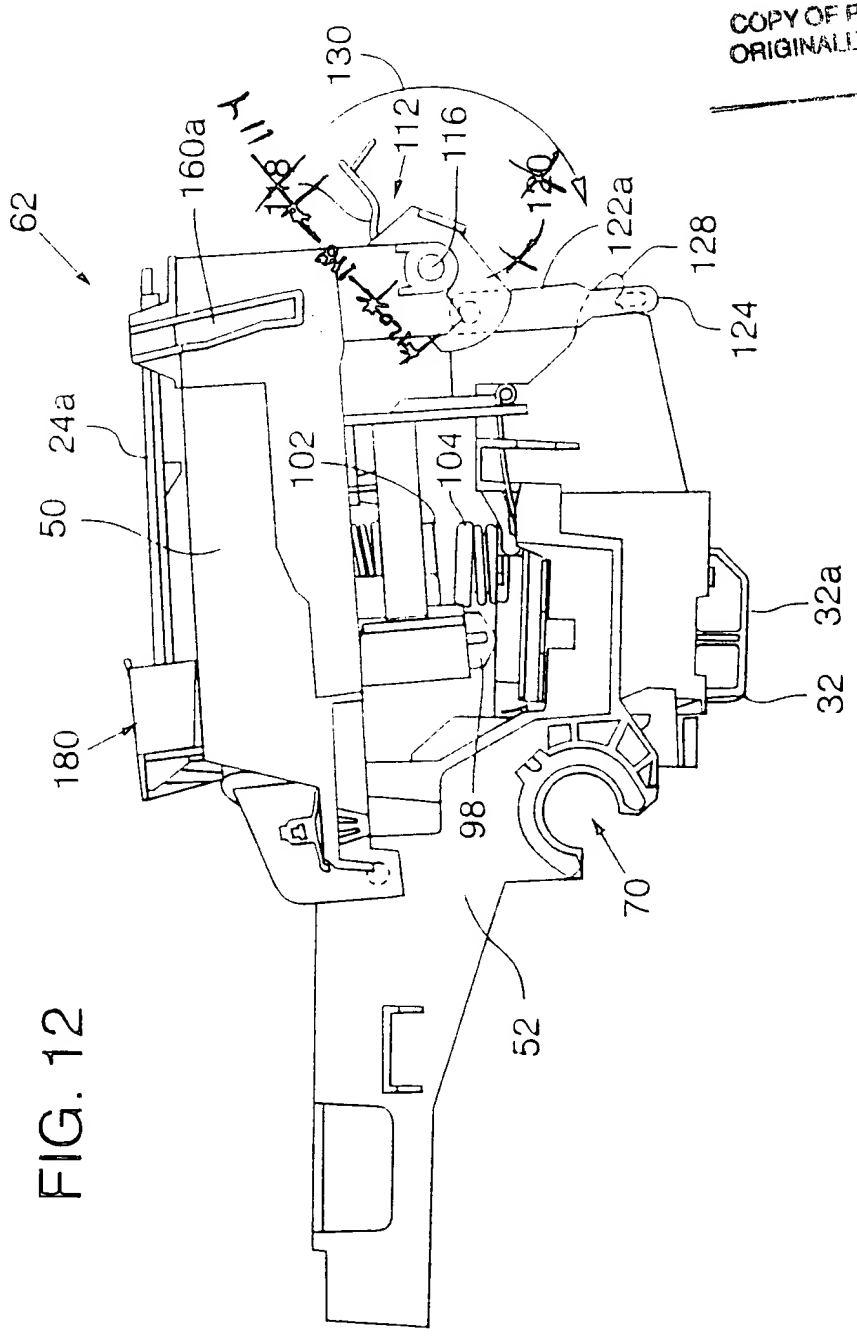

FIG. 12

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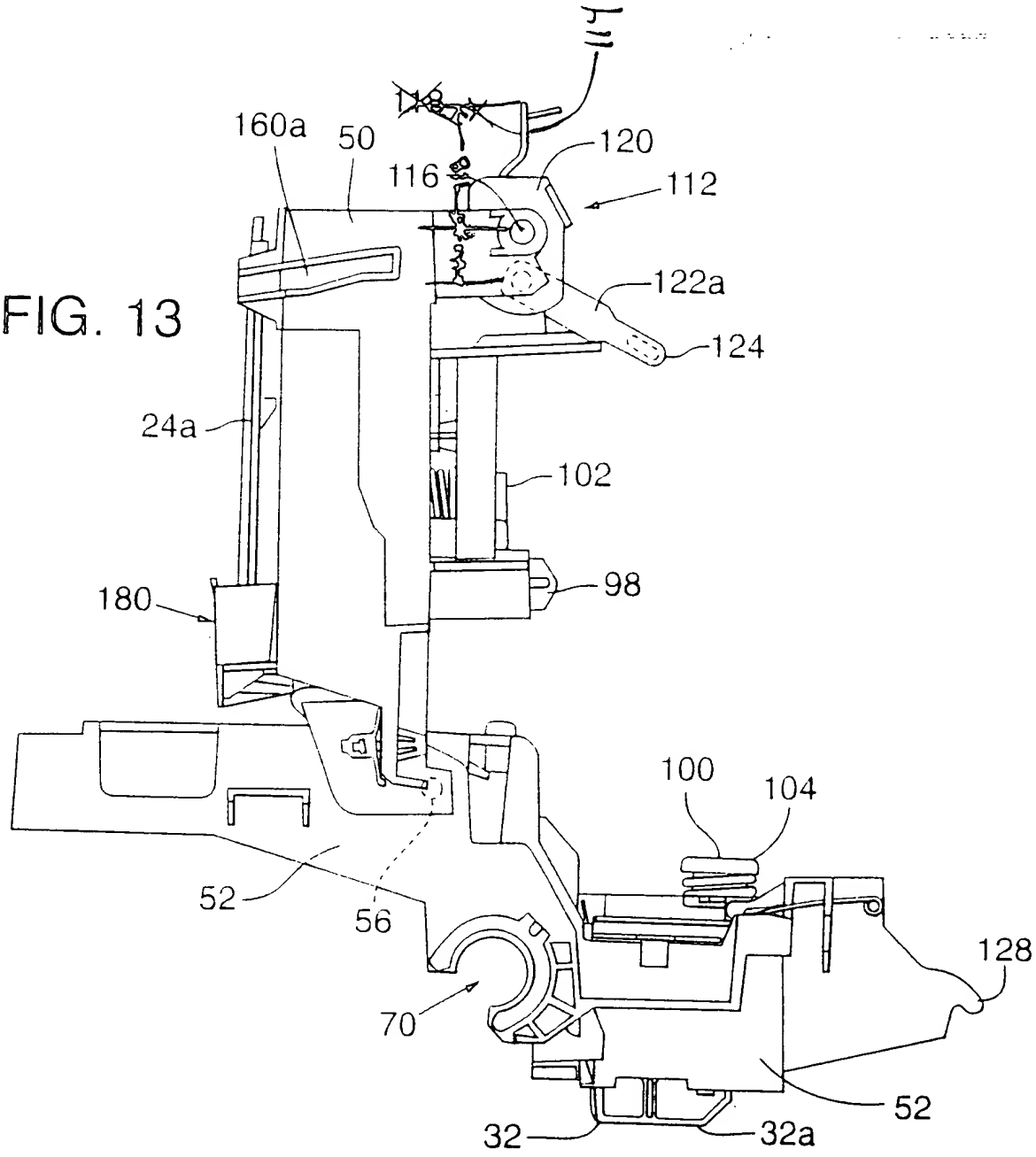
Redlined Correction of Sheet 7.

FIG. 13



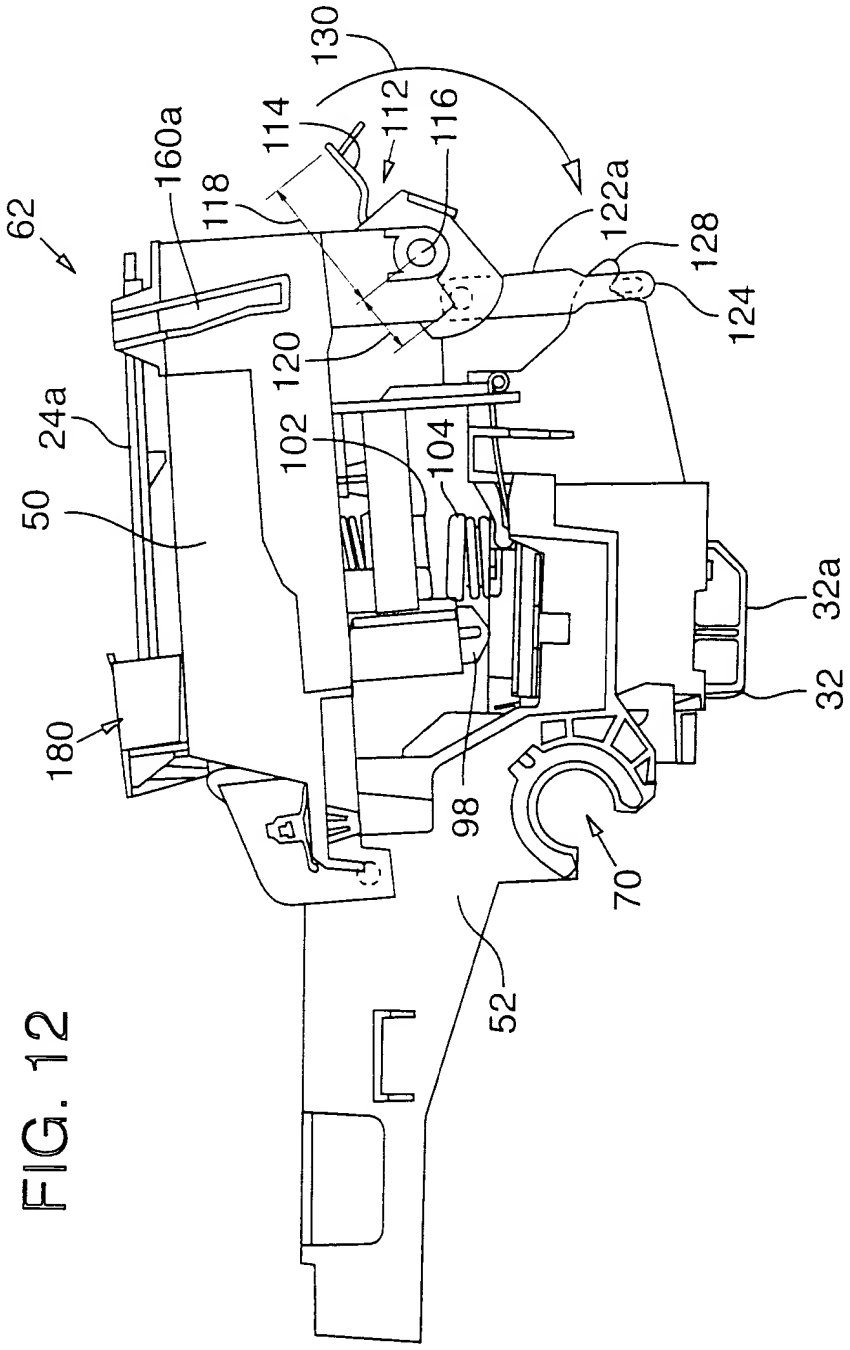


FIG. 12

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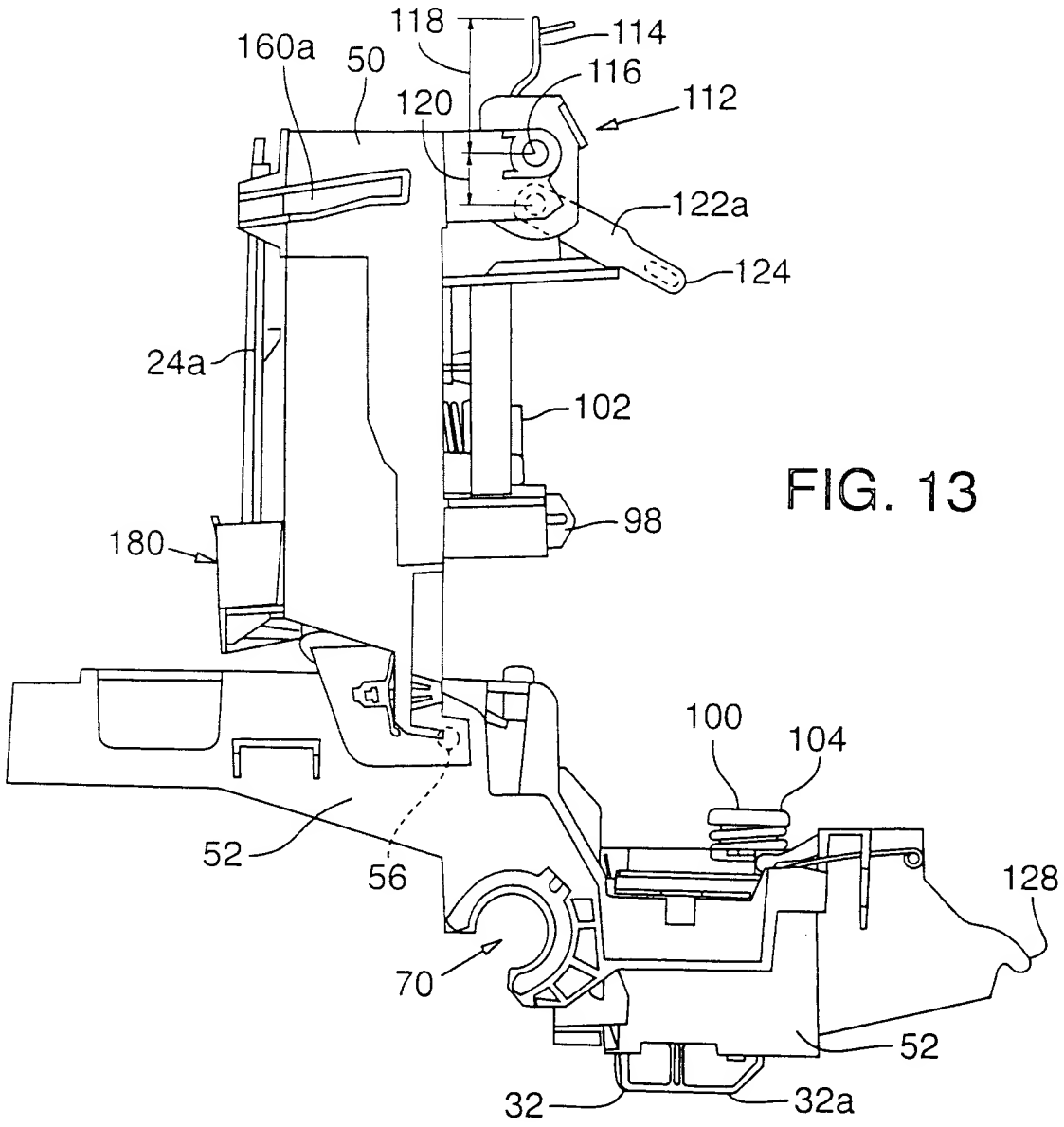

FIG. 13